IN THE SPECIFICATION:

(1) Kindly replace the two paragraphs beginning on page 4, line 2, with the following two paragraphs:

--To address the above-discussed deficiencies of the prior art, the present invention provides, for use in an integral equation formulation of capacitance, a system for, and method of, generating a representation of charge distribution for a given capacitive structure (which may be an integrated circuit). In one embodiment, the system includes: (1) a charge variation function generator that creates a multidimensional charge variation function wherein the charge variation function is independent of a conductive geometry of the structure and (2) a conductive geometry generator, associated with the charge variation generator, that creates a <u>representative</u> conductive geometry wherein the <u>representative</u> conductive geometry is independent of charge variation in the structure. Both the charge variation function and the <u>representative</u> conductive geometry are employable in the integral equation formulation to reduce a complexity thereof.

The present invention therefore introduces the broad concept of rendering the charge variation and <u>the</u> conductive geometry independent of one another, thereby significantly reducing the complexity of the subsequent integral equation formulation required to determine a structure's capacitance. <u>The charge distribution may be represented by the charge variant function projected on the representative conductive geometry whereas the charge variant function represents a function used to modify the charge distribution function to reach a desired resolution.</u>--

(2) Kindly replace the paragraph beginning on page 12, line 23, with the following paragraph:

--In the illustrated embodiment, the integral equation formulator 210 uses a two-component representation of the charge distribution. The first component, χ_R, is the characteristic function of the surfaces of the net and represents the geometry, without regard to the charge <u>variation</u> ~~distribution~~. The second component is a charge <u>variation</u> ~~distribution~~ function that represents the charge distribution, without regard to the geometrical layout. Since the charge <u>variation</u> ~~distribution~~ and the geometry are wholly decoupled, the representation of the charge distribution projected on the geometry requires far fewer unknowns than previous methods.--

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(3) Kindly replace the paragraphs previously inserted after the paragraph that ends of page 25, line 17 of the original specification with the following paragraphs:

--Turning now to FIGURE 2B with continued reference to FIGURE 2A, illustrated is a flow diagram of an embodiment of a method of determining a charge distribution for a net, generally designated 250, constructed according to the principles of the present invention. The method starts in a step 255 with an intent to determine a charge distribution.

An initial charge distribution and a <u>representative</u> geometry are provided in a step 260. The initial charge distribution and the initial <u>representative</u> geometry may be guesses and are used to start an iterative linear solution. The initial guess for the charge distribution may be designated g and the initial guess for the <u>representative</u> geometry may be a subdivision of the geometry of the net.

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After an initial charge distribution <u>representative</u> and geometry are provided, a first charge variation function is then determined in a step 265. The first charge variation function, f_1, may be

the difference between ψ_0 and ψ. In one embodiment, the first charge variation function may be determined by solving for ψ_0 and ψ using Equations 6 and 9.

After determining the first charge variation function, a determination is made if the charge distribution ~~function~~ is within an acceptable limit in a first decisional step 270. In one embodiment, the acceptance of the charge distribution ~~function~~ may be within an acceptable limit if the ratio γ/β is sufficiently small. If the charge distribution ~~function~~ is within an acceptable limit, the method 250 ends in a step 295.

If the charge distribution ~~function~~ is not within an acceptable limit, an other ~~a~~ charge variation function is created to refine a description of the charge distribution ~~function~~ in a step 280. In one embodiment, the first charge variation function f_1 may be normalized before proceeding with the linear iterative method. The method 250 creates a charge variation function which refines the

A3

description of the charge distribution ~~function~~ employing Equations 10-17.

After refining the description of the charge distribution ~~function~~, a determination is made if the charge distribution ~~function~~ is within an acceptable limit in a step 282. In one embodiment, the charge distribution ~~function~~ is within an acceptable limit based on the ratio r/β. If the ratio is within acceptable limits, the charge distribution has converged and the method 250 continues to step 295 and ends.

If the charge distribution ~~function~~ is not within acceptable limits, a determination is made if the representative geometry needs refinement in a third decisional step 287. In one embodiment, the method 250 may employ Equations 18 and 19 to determine if the representative geometry needs refinement. If the representative geometry does not need refinement, the method continues to step 280. If the representative geometry does need refinement, the representative geometry is subdivided

into subdivisions in a step 290. After subdividing the <u>representative</u> geometry, the method 250 continues to the step 280.

While the methods disclosed herein have been described and shown with reference to particular steps performed in a particular order, it will be understood that these steps may be combined, subdivided or reordered to form an equivalent method without departing from the teachings of the present invention. Accordingly, unless specifically indicated herein, the order and/or the grouping of the steps are not limitations of the present invention.--